

That which is claimed is:

1. A method for preventing IP address cheating in dynamic address allocation, comprising:

detecting, by using an exchange, in a legal subscriber address table whether there is a matching item corresponding to the source Medium Access Control (MAC) address and the source Internet Protocol (IP) address involved in an Address Resolution Protocol (ARP) packet which is sent from a subscriber terminal; if so, adding the source IP address and the source MAC address involved in the ARP packet to the ARP table so as to make it possible for the subscriber terminal to access to network; otherwise, discarding the ARP packet.

2. The method of Claim1, further comprising adding a message of a new subscriber terminal to said legal subscriber address table.

3. The method of Claim2, wherein said step of adding a message of a new subscriber terminal to the legal subscriber address table comprises:

(21) sending a DHCPDISCOVER packet from a subscriber terminal to the DHCP server via the DHCP relay;

(22) sending a DHCPOFFER response packet from the DHCP server to the subscriber terminal via the DHCP relay;

(23) sending a DHCPREQUEST packet from the subscriber terminal to the DHCP server via the DHCP relay;

(24) returning a DHCPACK response packet from the DHCP server to the DHCP relay;

(25) searching, by using the exchange, the legal subscriber address table to detect whether the IP address allocated to the subscriber has been set as a static item; and

(26) sending a DHCPDECLINE packet from the exchange to the DHCP server to inform it of adding a mark for the allocated IP address; meanwhile sending a DHCPNAK packet to the subscriber terminal to inform it of applying for another IP address; then going to Step (21) to apply for another IP address; or

(27) re-transmitting, by using the exchange, and adding the IP address and the MAC address allocated to the subscriber terminal to the legal subscriber address table.

4. The method of Claim3, wherein the static item is a message of a subscriber terminal with a static IP address.

5. The method of Claim4, wherein the static item is added or deleted according to real application situation of the corresponding subscriber terminal with the static IP address.

6. The method of Claim5, wherein the static item is added or deleted by means of a command line or manual configuration from the network administrator.

7. The method of Claim3, further comprising:

deleting a static item corresponding to a static IP address from the legal subscriber address table;

sending a DHCPREQUEST request packet from the exchange to the DHCP server to inform it of deleting the mark for the allocated IP address; and

sending a DHCPRELEASE packet from the exchange to the DHCP server to release the IP address so that the IP address can be dynamically allocated to other subscribers.